

1 **In the Claims:**

2 No claims have been added.

3 Claims 7, 10 and 12—23 are canceled without jeopardizing the Applicant's
4 right to file the same or similar claims in the future.

5 Accordingly, claims 1—6, 8—9, 11 and 24—25 are pending and are listed
6 as follows:

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8 1. (Currently amended.) A method for processing a database query,
9 comprising:

10 partially pre-aggregating records in a database according to a single
11 grouping column to provide a result that contains at least two records having like
12 grouping column values; and

13 aggregating records derived from the partial pre-aggregation to provide a
14 result that contains records having unique grouping column values; values; and

15 estimating the costs and benefits of the partial pre-aggregation, and partially
16 pre-aggregating the records only if the estimating indicates that the benefits are
17 greater than the costs.

1 2. (Original.) The method as recited in claim 1, wherein the partially
2 pre-aggregating further comprises:

3 maintaining a record store in memory, the record store having one record
4 for each different grouping column value encountered in the operation;

5 receiving a new record;

6 combining the new record with a record having the same grouping column
7 value, if such a record exists; and

8 adding the new record to the record store in the memory if there is no record
9 in the record store that has the same grouping column value as the new record.

10 3. (Original.) The method as recited in claim 2, further comprising:

11 adding additional new records to the record store until the record store
12 reaches a capacity such that it can accept no new records; and

13 outputting one or more records from the record store to a subsequent
14 database operator.

15 4. (Original.) The method as recited in claim 3, wherein after the one or
16 more records have been output to the subsequent database operator, the adding and
17 outputting are repeated until there are no new records to process.

18 5. (Original.) The method as recited in claim 4, wherein any records
19 remaining in the record store after there are no new records to process are output to
20 the subsequent database operator.

1 6. (Original.) The method as recited in claim 3, wherein the subsequent
2 database operator is a join.

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4 7. (Cancelled.)

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6 8. (Original.) The method as recited in claim 1, wherein the partially
7 pre-aggregating includes utilizing a hashing function.

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9 9. (Original.) The method as recited in claim 1, wherein the partial pre-
10 aggregating creates a record store in memory, and wherein the method further
11 comprises utilizing the record store in memory for one or more other database
12 operators.

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14 10. (Cancelled.)

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16 11. (Original) A computer programmed to perform the method recited in
17 claim 1.

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19 12—23. (Cancelled.)

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1 24. (Currently amended.) A relational database computer program stored
2 on a computer-readable medium, the relational database computer program
3 comprising computer-executable instructions that, when executed on a computer,
4 perform the following steps:

5 receiving a stream of input records;

6 aggregating the input records in the stream according to a single grouping
7 column as it is received to create a record store;

8 joining records in the record store with other data;

9 aggregating the records output from the join; and

10 determining if it is optimal to aggregate the input records prior to
11 performing the join;

12 performing the aggregation prior to the join only if a determination is made
13 that it is optimal to perform an aggregation prior to the join; and

14 wherein the records output from the join include at least two records that
15 have an identical grouping column value in the single grouping column.

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17 25. (Original.) The relational database computer program as recited in
18 claim 24, wherein:

19 the record store has a capacity that is less than the number of records in the
20 stream of input records; and

21 the aggregating each input record is performed until the record store reaches
22 capacity.

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24 26. (Cancelled.)